

IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strike through~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

1. (currently amended) An image processing apparatus which identifies a mobile object contained in an image captured by a high-resolution camera, comprising:

an extraction device extracting as a partial image a part of a high-resolution image captured by the high-resolution camera, and generating a low-resolution image having lower resolution from the partial image;

a detection device detecting the mobile object using the low-resolution image; and

a recognition device performing a recognizing process for the detected mobile object using a high-resolution image transmitted from the high-resolution camera when the mobile object is detected, and outputting a recognition result of the detected mobile object.

2. (original) The apparatus according to claim 1, wherein

said extraction device extracts a plurality of partial images using a plurality of windows provided and arranged at an upper end, a lower end, a left end, or a right end of the high-resolution image captured by the high-resolution camera, and generates a low-resolution image by arranging the plurality of partial images in one direction.

3. (original) The apparatus according to claim 1, wherein

said extraction device extracts a plurality of partial images from the high-resolution image captured by the high-resolution camera, generates a low-resolution image by combining the plurality of partial images, and generates a video picture from low-resolution images consecutive in a time series, and said detection device detects the mobile object using the generated video picture.

4. (original) The apparatus according to claim 1, wherein

said extraction device extracts two partial images from the high-resolution image captured by the high-resolution camera, and generates a video picture by alternately inserting the two partial images as respective low-resolution images, and said detection device detects the mobile object using the generated video picture.

5. (previously presented) The apparatus according to claim 1, wherein said extraction device extracts the partial image using a window provided at a closest position to a running direction of the mobile object which enters the high-resolution image captured by the high-resolution camera.

6. (previously presented) The apparatus according to claim 1, wherein said extraction device extracts the partial image using a window provided in the high-resolution image captured by the high-resolution camera, and changes a size of the window depending on a form of the low-resolution image.

7. (previously presented) The apparatus according to claim 1, wherein said extraction device extracts the partial image using a window provided in the high-resolution image captured by the high-resolution camera, and changes an angle of the window depending on a traveling direction of the mobile object.

8. (original) The apparatus according to claim 1, wherein said extraction device comprises a storage device storing information about a plurality of windows in the high-resolution image captured by the high-resolution camera, extracts a portion showing movement from the high-resolution image captured by the high-resolution camera, selects an optimum window from the plurality of windows, and extracts the partial image using the selected window.

9. (original) The apparatus according to claim 1, further comprising a storage device storing information about a plurality of detection windows in the high-resolution image captured by the high-resolution camera, and information about a recognition window associated with each detection window, wherein said extraction device extracts a plurality of partial

images using the plurality of detection windows, and generates a low-resolution image by combining the plurality of partial images, and when the mobile object is detected from a partial image in the low-resolution image, said recognition device extracts a recognition image from the high-resolution image transmitted from the high-resolution camera using a recognition window corresponding to a detection window used in extracting a partial image in which the mobile object is detected.

10. (currently amended) An image processing apparatus which identifies a vehicle contained in an image captured by a high-resolution camera, comprising:

an extraction device extracting as a partial image a part of a high-resolution image captured by the high-resolution camera, and generating a low-resolution image having lower resolution from the partial image;

a detection device detecting the vehicle using the low-resolution image; and

a recognition device performing a recognizing process for the detected vehicle using a high-resolution image transmitted from the high-resolution camera when the vehicle is detected, and outputting a recognition result of the detected mobile object.

11. (currently amended) A recording medium recording a program for an image processing apparatus which identifies a mobile object contained in an image captured by a high-resolution camera, the program directing the apparatus to perform:

extracting as a partial image a part of a high-resolution image captured by the high-resolution camera,

generating a low-resolution image having lower resolution from the partial image;

detecting the mobile object using the low-resolution image;

recognizing process for the detected mobile object using the high-resolution image transmitted from a high-resolution camera when the mobile object is detected, and outputting a recognition result of the detected mobile object.

12. (currently amended) A propagation signal for propagating a program for an image processing apparatus which identifies a mobile object contained in an image captured by a high-resolution camera, the program directing the apparatus to perform:

extracting as a partial image a part of a high-resolution image captured by the high-resolution camera,

generating a low-resolution image having lower resolution from the partial image;

detecting the mobile object using the low-resolution image;

recognizing process for the detected mobile object using a high-resolution image transmitted from the high-resolution camera when the mobile object is detected, and outputting a recognition result of the detected mobile object.

13. (currently amended) An image processing method of identifying a mobile object contained in an image captured by a high-resolution camera, comprising:

extracting as a partial image a part of a high-resolution image captured by the high-resolution camera from the partial image,

generating a low-resolution image having lower resolution from the partial image;

detecting the mobile object using the low-resolution image; and

recognizing process for the detected mobile object using a high-resolution image transmitted from the high-resolution camera when the mobile object is detected.

14. (currently amended) An image processing apparatus which identifies a mobile object contained in an image captured by a high-resolution camera, comprising:

extraction means for extracting as a partial image a part of a high-resolution image captured by the high-resolution camera, and generating a low-resolution image having lower resolution from the partial image;

detection means for detecting the mobile object using the low-resolution image; and

recognition means for performing a recognizing process for the detected mobile object using a high-resolution image transmitted from the high-resolution camera when the mobile object is detected, and outputting a recognition result of the detected mobile object.